

WHAT IS CLAIMED IS:

- 1 1. A method for regulating traffic in a network, comprising:  
2 making unavailable an amount of network transmission capacity as reserve  
3 capacity; and  
4 adjusting the amount of reserve capacity based on a desired network  
5 performance.
- 1 2. The method of claim 1, wherein the making unavailable comprises  
2 blocking end-users from gaining access to the network by asserting a traffic regulation  
3 signal in a channel of the network.
- 1 3. The method of claim 2, wherein the traffic regulation signal blocks all  
2 end-users or end-users of a specific class, the class being defined by one or more of  
3 priority, quality of service, or privilege.
- 1 4. The method of claim 2, wherein the network has a protocol controlling  
2 access to the network, the traffic regulation signal being consistent with the protocol.
- 1 5. The method of claim 4, wherein the protocol uses one of in-band signals,  
2 out-of-band signals or independent channel signals to control access to the network.
- 1 6. The method of claim 1, wherein the adjusting comprises:  
2 monitoring an amount of unused capacity of the network; and  
3 asserting a traffic regulation signal in the network if the amount of unused  
4 capacity is less than a desired amount.
- 1 7. The method of claim 6, wherein the monitoring is performed by media  
2 access controllers (MACs) for each media of the network that requires access control, the  
3 media access controllers controlling a local reserve capacity of each respective media  
4 based on system parameters and monitoring data generated by each of the MACs.
- 1 8. The method of claim 7, further comprising:  
2 exchanging the monitoring data among the MACs; and  
3 asserting the traffic regulation signals in each of the media to achieve  
4 network performance requirements.
- 1 9. The method of claim 7, wherein a central traffic regulation controller  
2 controls network traffic regulation, the method further comprising:

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3 receiving in the central traffic regulation controller the monitoring data  
4 generated by the MACs; and  
5 issuing traffic regulation commands from the central traffic regulation  
6 controller to the MACs to regulate traffic in each of the media to achieve network  
7 performance requirements.

1 10. The method of claim 7, wherein each of the MACs is one of a dedicated  
2 media access controller or an end-user that includes a media access function.

1 11. A network traffic regulation system, comprising:  
2 a network that includes media; and  
3 <sup>medium</sup> media access controllers (MACs); each of the MACs controlling one or  
4 more media of the network, each of the MACs making unavailable an amount of media  
5 transmission capacity as reserve capacity, and adjusting the amount of reserve capacity  
6 based on a desired network performance.

1 12. The method of claim 10, wherein the making unavailable comprises  
2 blocking end-users from gaining access to the network by asserting a traffic regulation  
3 signal in a channel of the media controlled by each of the MACs.

1 13. The method of claim 12, wherein the traffic regulation signal blocks all  
2 end-users of the media or end-users of a specific class of the media, the class being  
3 defined by one or more of priority, quality of service, or privilege.

1 14. The method of claim 12, wherein the media has a protocol controlling  
2 access to the network, the traffic regulation signal being consistent with the protocol.

1 15. The method of claim 14, wherein the protocol uses one of in-band signals,  
2 out-of-band signals or independent channel signals to control access to the media.

1 16. The method of claim 11, wherein each of the MACs monitors an amount  
2 of unused capacity of a media controlled by each of the MACs, and asserts a traffic  
3 regulation signal in the media if the amount of unused capacity is less than a desired  
4 amount.

1 17. The method of claim 16, wherein each of the MACs controls a local  
2 reserve capacity based on system parameters and monitoring data generated by one or  
3 more of the MACs.

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1 18. The method of claim 17, wherein each of the MACs exchanges the  
2 monitoring data with other one of the MACs and asserts the traffic regulation signals in  
3 each of the media to achieve network performance requirements.

1 19. The method of claim 17, further comprising a central traffic regulation  
2 controller that controls network traffic regulation, the central traffic regulation controller  
3 receives the monitoring data generated by the MACs, and issues traffic regulation  
4 commands to the MACs to regulate traffic in each of the media to achieve network  
5 performance requirements.

1 20. The method of claim 17, wherein each of the MACs is one of a dedicated  
2 media access controller or an end-user that includes a media access function.

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